IN THE SPECIFICATION

Please amend the paragraph beginning at page 10, line 14 as follows:

The present invention provides multiple architectures for integrating IP and cellular telephone networks. For example, the first architecture replaces the BSC functionality with an application specific router, and eliminates unnecessary ~~HWs~~ HOs to allow both data and voice to ride on the IP pipe. The MSC is eliminated and SS7 related messages will be placed in an IP format at the BSC and routed to IP network. The IP connection is established from the router to the mobile for data transfer, and the BSC has a link layer connection for voice and data applications. Intra-BSC SHO is maintained through the BSC mobility management functions, and inter-BSC HO is implemented through inter-BSC tunneling.

A1

Please amend the paragraph beginning at page 10, line 22 as follows:

A second architecture enhances the BSC to have ATM connections to the handoff server (HS). The FA remains a function of BSC, and an ATM connection would be established from the BSC to the HS. Intra-BSC/Inter-BSC HO is maintained through ATM layer functionality, and an ATM connection from BSC to HS supports SHO in a CDMA system.

Please amend the paragraph beginning at page 11, line 20 as follows:

FIG. 4 illustrates replacing the BSC with a router in accordance with the present invention. In architecture 400, the MSC is removed from architecture 400 and the BSC 402 is replaced with a router (BSC router) 404, that has enhanced IP routing and Foreign Agent (FA) 406 functions. The router 404 ~~not~~ interfaces with the BTS 408, 410, and 412, which interface with the mobile telephone 414 throughout each BTS 408-412 coverage area. The Internet (IP network) 416, and other network features 418, interface directly with the router 404, instead of interfacing with the MSC as shown in FIG. 1. The Home Agent (HA) 420 now interfaces through the IP network 416.

A2

Please amend the paragraph beginning at page 12, line 5 as follows:

The interface between the BTS 408-412 and the BSC 402 is replaced with a similar or the same interface between the ~~PTS~~ BTS 408-412 and the router 404. Intra-BSC 404 handoffs are handled as before since all mobility management functions still remain in the BSC router 404. From the BSC router 404 to the IP network 416, IP-based communications are used. In addition, the FA

406 is added to the BSC router 404 to handle the tunneling between the HA 420 and the FA 406. Inter-BSC router 404 hand-offs are done by the first FA 406 anchoring during the handoff, and the HA 420 updating when completing the handoff.

Please amend the paragraph beginning at page 14, line 17 as follows:

FIG. 7 illustrates the architecture of the present invention using a hand-off server 702 as a replacement for the BSC and/or BSC router described with respect to FIGS. 4-6. In architecture 700, the ATM is used as the layer 2 protocol. The mobile telephone 414, the BTS, 408-412, and the HO server 702 are running IP on top of ATM. While in normal, non-SHO operation, the mobile telephone 414 is connected to the BTS 408 through a Permanent Virtual Circuit ~~(PVC) 1~~ (PVC1) 704, and the BTS ~~708~~ 408 is connected to the HO server 702 through IP ATM (PVC2) 706. While in the SHO area, the mobile telephone 414 is connected to the HO server 702 directly through ATM (PVC3) 708. Therefore, there is only one IP hop between the soft HO server 702 and the user terminal or mobile telephone 414. Synchronization can be achieved for the SHO application. In this architecture 700, the IP is running on top of the ATM layer. The BSC is eliminated from the architecture 700 of the network. In the SHO region, the traffic path is running on PVC3 708. This architecture is more efficient in the use of system resources, since statistical multiplexing can be applied.

A3